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Honey as Food—Why It Should be Eaten.

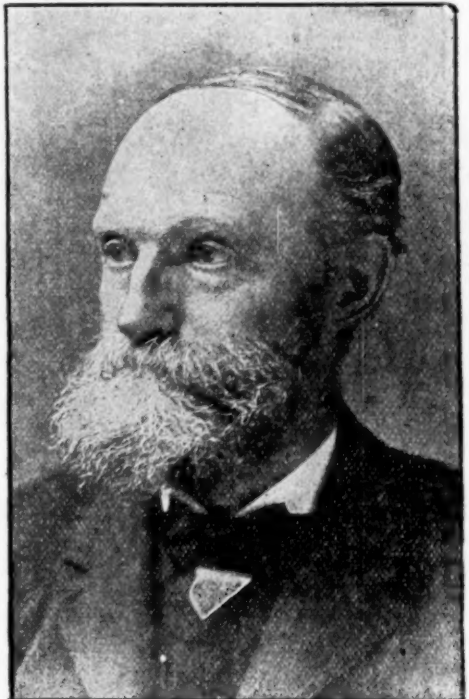
BY PROF. A. J. COOK.

There are four kinds of food that are necessary to health and life. These are the inorganic elements, like water, salt, phosphate and carbonate of lime, etc.; the non-nitrogenous organic—so-called because they owe their origin to organic nature, and contain no nitrogen—and the nitrogenous. The second class—the non-nitrogenous organic—contain oxygen, hydrogen and carbon, illustrated in starch, the various sugars and the fats. The last class all contain nitrogen, and resemble in many ways the white of an egg, and so are often called albuminoids. Muscle, white of an egg, cheese, and blood albumen, are illustrations of the nitrogenous food elements. That we need all of these in our food, is shown in the fact that we hunger for them if they are not represented, or if they are too scantily represented in our food. Again, milk and egg, which may be regarded as typical food, contain all of these substances.

In this article, we are concerned only with the second class of food principles—the non-nitrogenous organic. Of these, the fats do not interest us at present, although important in all complete food rations. Bees get their albuminous and fatty food elements in the pollen. We thus have before us now only the starch and sugars. These not only contain oxygen, hydrogen, and carbon, but always contain the oxygen and hydrogen in proportion to form water, that is, two atoms of hydrogen to one of oxygen. Thus the formula for starch is $C_6H_{10}O_5$, and of water is H_2O . Glucose and lævulose, the sugars of honey, have the following formula, $C_6H_{12}O_6$. From the fact that starch and sugar contain oxygen and hydrogen in proportion to form water, they are called carbo-hydrates. The carbo-hydrates, then, including starch, and all sugars, as cane sugar, which includes beet sugar, and maple sugar, milk sugar, and all the glucose or reducing sugars, are very important food elements, so important that we are not left, as in case of most foods, to the chance of securing them in our food that we eat, but the liver is constantly forming liver sugar, which is very much like the sugar of honey. The liver, then, is a marvelous chemist, for it can do what no human chemist can do—form sugar, though we only eat the purest muscle, like the beef's heart. To change nitrogenous material into

carbo-hydrates, is a wondrous transformation, that man has never yet been able to perform. The liver can, and does, do it. In our early development, before the liver is sufficiently formed to be functionally active, a purely pre-natal organ—the placenta—forms sugar. We all know how children long for candy. This longing voices a need, and is another evidence of the importance of sugar in our diet.

Until a comparatively recent date cane-sugar was unknown, if we except maple sugar, and that must have been a very unimportant food article. Thus, in the olden time honey formed the almost exclusive sugar, and so must have been a very important substance. We know by the references to it in classic writings, and in the Bible, that it was held in very high regard, as well it might be, for it, with starch, composed



President A. I. Root.

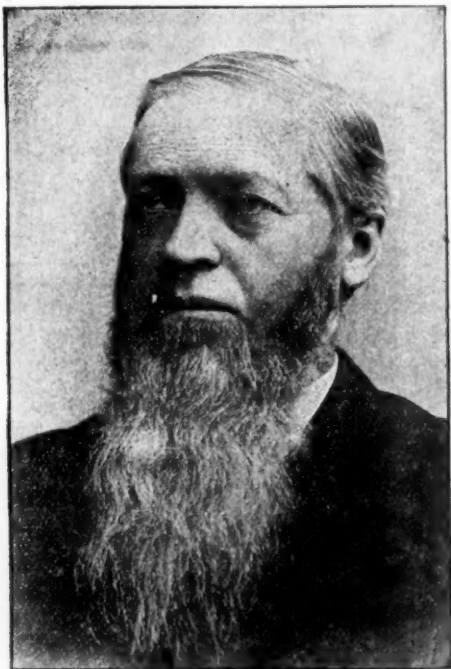
the entire stock of carbo-hydrates to be drawn upon by the caterer of the olden time, as he worked to satisfy the needs, or, what is about the same thing, the appetites of his patrons.

I have been told by some excellent physicians that they thought that some of the worst diseases of modern times—especially Bright's disease of the kidneys—was far more prevalent than formerly, and they thought it due to the large con-

sumption of cane-sugar, which was all unknown in the long ago. It seems to me that a little study of the subject may explain this, if it be true, and may give us two valuable hints—the one, to eat more honey; the other, to take special pains to give children all the honey that they wish, and at every meal-time, in the hope to lessen the amount of cane-sugar that they will eat. They like and crave sugar, because they need it to nourish them, and so given plenty of sugar in the honey, the need will be met, and the hunger for candy and cane-sugar will be less keen.

The digestion of food is simply to render it osmotic, or capable of being taken through an organic membrane, capable of being absorbed. We eat starch. It is non-osmotic, and would lie in the stomach and intestines indefinitely, except that by digestion it is changed to a glucose like sugar, which is very osmotic, and so easily absorbed from the aliment-canal into the blood. Cane-sugar, though somewhat osmotic, is not readily absorbed, nor is it readily assimilated, even though it pass into the blood. Thus cane-sugar must be digested or changed to a glucose like sugar.

Bees gather nectar from the flowers, and as they sip it, or draw it, from the flowers, they mingle with it a kind of



Secretary Dr. A. B. Mason.

saliva or ferment, from their upper head glands, and the large glands of the thorax, and thus transform it to honey, which contains, almost exclusively, a reducing sugar, and not cane-sugar. Thus bees do to nectar what we do to cane-sugar—they transform it to a more osmotic and more assimilable glucose like sugar. We call this in our case digestion of the cane-sugar, and it is just the same in case the bees do it. If any one prefers he may call it "transformation." In any case, it makes honey a safer food than cane-sugar, and we do well to eat it more generally; and it is especially desirable as food for children.

Children should be given all the honey at each meal-time that they will eat. It is safer; will largely do away with the inordinate longing for candy and other sweets, and in lessening the desire will doubtless diminish the amount of cane-sugar eaten. Then if cane-sugar does work mischief with health, the harm may be prevented. There can be no doubt but that in eating honey our digestive machinery is saved

work that it would have to perform if we ate cane-sugar; and in case it is over-worked and feeble, this may be just the respite that will save from a break-down.

Again, if cane-sugar is absorbed without change, it will be removed by the kidneys, and may result in their break-down; and so physicians may be correct in asserting that the large consumption of cane-sugar by the 19th century man, is harmful to the great eliminators—the kidneys—and so a menace to health and long life.

It may be urged in reply to the above, that honey is a poison to many. This is not the sugar of the honey, but some other element, very likely the formic acid, or perhaps the extract from the flowers. It seems most likely that the deleterious element is the formic acid added to the sweet by the bee. This keeps the honey from fermentation, and is not harmful to many; only occasionally a person is unable to eat it.

Claremont, Calif.



The Use of Drawn Combs—Some Drawbacks.

BY REV. EMERSON T. ABBOTT.

Much has been said of this of late, and some of the writers seem to think it a new thing. Perhaps it is, if a thing may be called new which has been tried and rejected, and then after years has been taken up again and pushed to the front. However, this has nothing to do with the real merits of the case.

I know by experience that bees will store honey more rapidly, and larger quantities of it, if they are given drawn combs, but the larger quantity will be secured at the sacrifice of quality. I am thoroughly convinced that bee-keepers will find that they have made a mistake, if they adopt the practice of using drawn combs. If honey is to be considered a luxury—as many claim it always will be—then quality is of more importance than quantity.

There are two drawbacks to the use of drawn combs, which, in my opinion, can never be overcome. One of these is the tendency of the honey to sour when it is put into the combs so rapidly. I tried drawn combs two seasons when the bees were working almost exclusively on the basswood, and in both cases I had trouble to keep the honey from granulating in the cells. Comb honey will seldom granulate unless it is improperly cured, or is exposed to moisture after it is taken from the hives. For some reason the bees do not cure the honey as thoroughly when stored in drawn combs as they do when they build the combs as they store the honey. I'm free to say that I see no way by which this difficulty can be overcome at present.

The other, and perhaps more serious, objection to the use of drawn combs is, that one can never secure as delicate and friable comb in this way as he can when the bees build the comb as they store the honey. I have never seen any combs that had been drawn out over winter and then filled with honey the next season, but what were tougher and harder than they would have been if they had been filled with honey at the time they were made, or as they were being drawn out. By placing such honey on the market one is sure to injure his comb-honey business, especially if he has been producing a fine quality of honey and catering to the best trade for fancy prices. His customers are very apt to conclude that he has learned the trick of making "artificial honey." Bee-keepers have enough to contend with now along the line without adding another difficulty in the shape of drawn combs.

I have just had my attention called to a Bulletin issued by the Connecticut Experiment Station, on the workings of the "pure food law" in that State, in which it is stated that out of 12 samples of comb honey examined by the State chemist, six were filled with sugar syrup which had been fed to the bees. Well, this may be so and it may not, but, to tell the truth, I am very much inclined to think that the chemist made

a mistake, and that had he been better posted, the six cases would have turned out to be only granulated honey. Let this be as it may, bee-keepers cannot afford to adopt any method which will lower the standard of comb honey, or render it any less tempting to the human palate. Therefore, my advice is, not to be in a hurry about adopting this method of adding to the sum total of the comb honey crop until it has been demonstrated that the points which I have suggested are not well taken.

Since writing the above, I have been talking with a bee-keeper who used drawn combs for the first time this season, and he said some of his honey had begun to sour in the combs at this early date, before he took it off from the hives.

St. Joseph, Mo.



Furnishing the Feed in an Apiary on Shares.

BY G. M. DOOLITTLE.

A correspondent sends in three questions and desires that I answer them in the American Bee Journal, which, with your permission, Mr. Editor, I will do. The first question is this:

"Who furnishes the feed when the apiary is worked on shares, for stimulating purposes, or to keep the bees from starvation, when they do not have stores enough in the fall for winter? In other words, what is the custom regarding such feeding?"

Well, I do not know that there is any custom. The only way that I know to govern such matters is to enter into an agreement explicit enough to cover all cases of emergency, and have it put down in black and white, and then live up to it according to the Christian rule laid down in the Good Book, "who sweareth to his own hurt and changeth not;" for if you go into "bees on shares," some one is apt, as a rule, to have their feelings, if not their pocket-book, hurt.

If you took the bees in the spring and the owner of them said nothing whether they had honey enough to carry them through to the time new honey came in, and they were short of feed, I should think that he should furnish the feed, were they likely to starve.

As to feeding to stimulate, I do not think that it can be made to pay for the feed and the time. If you are to have the bees for a term of years, and they do not have honey enough in the hives any fall for the bees to come through in good condition till swarming-time the next year, then I should say that the person taking the bees is the one who should furnish the feed. If both were to share and share alike in the profits from the bees (the way in which bees are usually let out on shares), then I should say that both should bear equally the expense of feeding, whenever it is necessary to be done.

But in addition to what I said above, about bees on shares, I would say with emphasis, *don't*. Far better purchase two or three colonies, work your way up with them as your knowledge increases, thus being "your own man" all the while, than to try to gain a knowledge regarding the business by building yourself up on some other person's property along this line. Almost any other partnership business works better than it does with bees.

CONTROLLING DRONES.

The next question asked is as follows: "I have five colonies of bees—three blacks and two Italians. I wish to secure the pure mating of my queens another year. Would it be well to give the Italians a frame of drone-comb and put drone-traps on the blacks when the young Italian queens are mating? or is there a better way?"

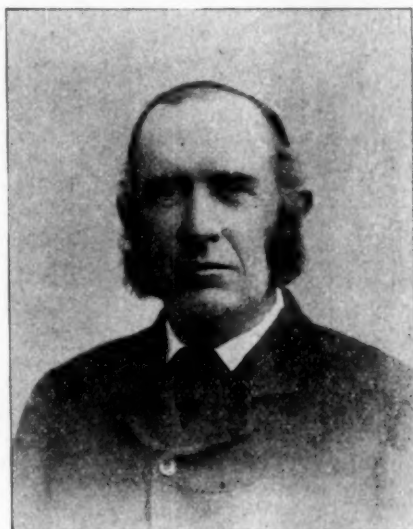
If the correspondent is desirous of having his queens purely mated, of course he must kill or control all drones from undesirable colonies. The drones can be controlled with the traps; but in this case you must buy the traps, keep them on the colonies, and furnish the money necessary to rear and feed

the drones, all of which is an expense that would better be avoided.

If you think that you must rear the drones, and do not wish to buy traps, you can put a piece of perforated zinc at the entrance of the undesirable colonies, keeping it there till four o'clock, then remove and let the drones out; and while out, replace and keep the most of them out for evening destruction. This would be about the only way with box-hives, unless the trap was used. But for frame hives (and I would advise the use of no others) much the best way would be to remove all of the drone-comb, or nearly so, from the black colonies, and replace it with worker-comb, and thus you will save all the trouble and cost of producing the drones, and you will rear 50 workers to every square inch of comb, in place of 32 drones, these workers storing honey for you in place of the drones eating it.

In any event, you could not be sure of having your queens purely mated unless there were no black or hybrid bees in the woods or any apiary for a distance of four or five miles from you in every direction, which is a state of affairs that does not usually exist in most parts of our country. But for honey-production, I doubt whether it would pay to be too careful to have all of your queens purely mated, for a first cross (or what is more truly hybrids than the general mixture which are called hybrids) give nearly, if not quite, as good results in honey as do pure bees of any race.

If you were to procure Italian queens for the three black colonies and Italianize the blacks before any drones were



Vice-President Wm. McEvoy.

reared in these hives in the spring, you would then have things about as you want them, and that, too, about as cheaply as by any plan I know. These things are quite easy when you come to fully understand all the points bearing on the same.

THE BEE-MOTH LARVÆ KILLED BY FROST.

The third and last question reads thus: "I have read that frost would kill the larvæ and eggs of the bee-moth. If so, what temperature will it take to do it? I have some combs which were exposed to the cold all winter, but worms hatched out in them the next June, or, at least, the worms were at work on them at that time."

It is generally supposed that a temperature of 10° above zero will destroy all eggs and larvæ of the bee-moth; but, candidly, I do not know whether it will or not. At times I have thought that zero and below was sure death to everything in the bee-moth line; then, again, I have been equally positive that worms which had wintered over somehow in a

very low temperature, either in the egg or larval form, were those which troubled the combs upon the return of warm weather the next year. Who can tell us something positive about this matter? We know that eggs and larvæ are carried over in a colony of bees, or in their combs; and I have thought that these, after hatching into the mature moth, may have found their way to my combs in some way, though I hardly knew how.

Borodino, N. Y.



Sweet Clover—Its Value from a Commercial Standpoint.

BY MRS. L. E. R. LAMBRIGGER.

Since bee-keepers have started to boom sweet clover as a honey-plant, an effort is being made on the part of constitutional kickers and chronic growlers to "down it," on the ground that it is a "noxious weed." Such an assertion is as false as it is ridiculous. If sweet clover is a noxious weed, then so is alfalfa, and in fact all our clovers.

In these days of financial distress, it is generally conceded that the thing which will bring us the quickest and surest returns for labor and capital invested is the thing of all things for the people to tie to. Silver dollars are no longer found rolling uphill, nor are they cast at our feet by the careless fling of mountain torrents in their mad scurry to the sea. We



Treasurer W. Z. Hutchinson.

must look elsewhere for them, and, in my opinion, sweet clover furnishes the gateway to one of those "elsewheres."

Its utility for any purpose for which alfalfa is famed, seems to be unquestioned, save in the minds of the uninformed or prejudiced.

Sweet clover hay is excelled by none both as food for horses and for milch cows. When young and tender it constitutes the finest of pasture; if wanted for its seed, it yields many times the number of bushels per acre of any clover with which I am familiar. It possesses valuable medicinal properties; it was ever one of the stand-bys of my grandmother's garden; she used to prepare an ointment from a decoction of the leaves, which for soothing and healing purposes far surpassed any of the present new-fangled "patents."

It is a handsome plant; its highly aromatic fragrance is pleasant—and I have read that pillows filled with the dried leaves will woo the god of sleep when all else fails.

As a honey-plant, I believe it to be unrivalled. It came

into bloom in our locality last spring on May 25, and the great honey-flow lasted a month—and a flow it was, indeed; it just seemed as if honey poured into the hives. This was from a two-acre field fenced in from stock. Then we had about as much more in pasture for the purpose of later blooms; some of that is blooming yet (Aug. 25). We had abundance of other bee-pasture, but the bees had neither eyes nor ears for anything as long as sweet clover lasted.

We tried a frame of the honey soon after it was sealed, and I did not quite like the flavor—thought my taste would have to be cultivated, but Aug. 9 we tested another frame, gathered in June, and found it excellent, so I am led to believe that sweet clover honey improves with age. (Am I correct?)

Great claims are made for alfalfa as a honey-plant; personally I know nothing about it, as there is but one piece of alfalfa in our locality, and that is less than a mile from us; and, by the way, we are the only bee-keepers in this locality. This neighbor, who owns the alfalfa, called the other evening; we asked him if he had observed any of our bees working on his alfalfa blooms.

"Bees! why, bless your soul, I never saw a honey-bee in my life—wouldn't know one if I did see it," he replied.

He was invited to step out and get acquainted; his comment was:

"What funny, stubby little things they are. Well, no! I've never seen any of them up our way."

This particular region seems to be the natural home of the honey-bee, and in my next, I will, with our editor's permission, give you some of the reasons why it is so.

In closing, my advice to every bee-keeper and farmer is, plant sweet clover if you want to be surprised. It never troubles cultivated fields, and never needs any preparation of soil.

Knox County, Nebr.



Starting an Apiary in California—Doctoring.

BY DR. E. GALLUP.

I have been asked by many correspondents how a person with small means could start an apiary in California. Also, how I came to give up bee-keeping for doctoring. By the editor's permission, I propose to answer both questions. It may make the article rather long, but I will try to make it interesting to some.

I started in last spring with two colonies of bees—a good one, and one with a poor queen, so it did not amount to much until I introduced a new queen. I found one swarm in March, and had two swarms given to me in April—one of them a good one, and the other weak in numbers, and required considerable nursing and feeding to keep it alive.

The first swarm found filled its hive and cast a good-sized swarm in 12 days. In six days I found the swarm queenless. On examining the old colony for a queen-cell, I found every comb built all drone-comb, and drone-brood, and queen-cells built over drone-brood. The new swarm had built all drone-comb, also, and it was two months before I could get a laying queen in either of those colonies, on account of the weather being so cold and windy. I succeeded in rearing one queen, but she was balled and killed in front of her hive on her return from her wedding-trip.

There was no headway made at all until sometime in June. I started in with Gallup hives, but intending to rear bees for sale, I thought best to adopt the standard Langstroth hive. So I made all Langstroth hives, and have transferred all the six first colonies to them. I have purchased and had donated to me 12 queens; those donated were sent by breeders that claimed that I had done enough so they could afford to donate a queen, etc. I have received queens from two breeders in Texas, one from Arkansas, and five from Ken-

tucky, one from Iowa, and one from Wisconsin, one from Ohio, and one is now due from Massachusetts. The queens have all proved satisfactory except one that was worthless, and I superseded her.

I received an Albino queen from Texas, that is a little ahead of anything I ever saw, and I have seen some good queens in my time. The queens from Kentucky were extra-good ones, their workers are golden beauties, and they have evidently been reared for business as well as beauty. The queens from Wisconsin and Ohio I received only last week, so I cannot tell how they will turn out. All received have proven satisfactory as to purity; the one superseded could not, or would not, keep two Langstroth frames occupied with brood.

I have made all my own hives (45 single ones) myself. I made one observation hive and one sun extractor. The cost of single hives for material was 32 cents each. The tools used were a common handsaw, one carpenter's square, two hammers (one large, and one small for nailing frames), and a common jackplane. Not an expensive outfit, by any means. The hives are all made from first-class redwood lumber, and all are good, substantial, well-made hives. *I know, for I made them.*

I have purchased \$8 worth of comb foundation, and used nearly all of it. I lost one queen in introducing; came very nearly losing another by following the directions sent with the queen. I learned, some 50 years ago, how to introduce queens with tobacco smoke, from an old Hollander, and I have never failed by that process. I can remove a queen and introduce a new one in from 10 to 15 minutes.

Another kink I learned from him, also, is this: When you have to set hives close together, side by side, and young queens come out on their wedding flight, mark the front of the hive so the young madam cannot make a mistake. I pin a piece of newspaper, cut in a peculiar shape, over the entrance of one hive; over another I pin an old black hat; over another, a paper sack (inflated) just above the entrance, etc. Make your marks, whatever they are, as odd and prominent as possible. I have had six queens come out in one day, close side by side, and no mistake made in getting back all right; while I neglected two hives, and had both queens to go into one hive, but I discovered the mishap in time to save them both. I never had lost a queen in that manner, if I attended to "posting notices" just over the entrance. They can be removed as soon as we are done with them. I dislike painting the fronts of the hives different colors, as recommended by some. The old Hollander had over 100 hives set in a row, all alike, and only about two inches space between each hive, and he said that posting notices as above proved infallible. It certainly has with me.

During the bad weather in spring I fed \$3.00 worth of sugar, all told. I now have 30 good colonies of bees, all Italianized. If the two months in spring had been as good as it usually is here, I could have made 60 colonies just as easily as to have made the 30.

Now for what I was doing in that time: My last wife died three years ago the 17th of last March, with inherited consumption. I do not claim to cure consumption when once thoroughly seated, but I have cured incipient consumption in many cases. I always prolong life, and make the patients more comfortable while they do live. My wife left me with three little fellows on my hands to care for, the youngest two, the next four, and the oldest six years of age. And I have taken sole care of them since, without the help of a woman, with the exception of two months at one time, and one month just past. I have done all my housework, cooking, etc.

At the time I commenced my "bee-factory," last spring, I would get breakfast, and be at the west end of town (two miles from home) at 7 o'clock in the morning, where I treated

a Mrs. B. She had a complication of complaints caused by drugging for sciatia. The doctors had drugged her for years. In fact, she had (like one of old) suffered many things from many physicians, but all to no purpose, but rather grew worse. She was cured in three weeks by common-sense treatment, at a cost of \$18.

I cured three cases of typhoid fever in three days each, at a cost of \$5.00 each; one case of neuralgia of long standing, dyspepsia, etc., all caused by drugging until the little girl had ceased to grow, and had weak eyes—I cured her at an expense of \$5.00 to the parents. One young man was deaf, caused by drugging for fever a few years ago; rheumatic pains, dyspepsia, constipation, etc.; cured at an expense to him of \$5.00.

A Mr. H., with one withered leg, cold and dead, had drugged constantly for 12 years; paid all his earnings over and above supporting his family, to doctors and drugstores, until his mind was badly affected, and on the verge of committing suicide. He said: "I had typhoid fever 12 years ago for 10 weeks, and the fever left me with this paralyzed leg." My reply was this: "*That cannot be possible, for a fever is a cleansing, purifying process, a remedial effort of Nature to throw off impurities from the system, consequently if properly assisted it always leaves the patient in better health than when it found him. Your fever could have been cured in three days by natural process, and without drugs of any description. Your swallowing poisonous drugs for 10 weeks paralyzed your leg. Your system is now thoroughly saturated with poison from head to foot. Now, if you commence treating with me, you must agree faithfully to stick to me three weeks, or I will not touch your case, because I shall stir up the stagnant and poisonous blood, and drive the poison out of the system, and it will make you deathly sick. Your body is a machine, and I shall go to work mechanically with my hands to cleanse the human machine. You will perhaps vomit, but you will purge fearfully, and wind up at the end with typhoid fever that the doctors suppressed 12 years ago. I can certainly cure you without the least particle of doubt on my part, etc.*"

He was cured at an expense to him of \$20. The veins and arteries are the streams and rivers; the nerves are the telegraph wires, etc. In his case he had a tornado of poison (commonly called "medicine") thrown into the stomach, and this tornado had impaired or thrown down the telegraph wire at the hip joint, and stopped all communication from the head office through the leg. All that was needed was to stir up the debris in the small streams and rivers, and repair the line at the hip joint. Now, understand, that the nerves are what causes the blood to flow, and without nerves the blood cannot flow.

Then I had another case helpless with rheumatism, joints all enlarged and badly swollen, very painful to attend. All those cases I visited before noon, and was at home at 11:30 to get dinner for myself and children. The youngest tots stay at home alone, the eldest went to school.

In the afternoon I had Mr. A. O. Sutton, of Easton, Mich., and family to see to. He came here on crutches with chronic rheumatism for seven years; had paid out hundreds of dollars to doctors, all to no purpose, only to make him worse. Mrs. Sutton had female trouble (chronic); the three little children, all nervous from drugging, etc. I sent them all home joyful, happy and well.

I had a Mrs. S. from Washington (State). She heard of me, and came all the way down here for treatment. She had been 42 years an invalid, a good share of the time bedfast, and had suffered many things from many physicians, all to no purpose. She had paid out hundreds of dollars to make herself sick, and to keep her sick. She was on the verge of insanity from drugging, but is now happy and sees her way clear to good health once more.

Besides my regular patients I attended three childbirths; their labor is shortened from six to seven hours, and they invariably are up and around on the third day. I attended and cared for five families of children with measles, besides my own three had them; not one of the lot staid in the house over one day. My children never went to bed a single day, and took care of themselves while I was away. I had three cases of cholera infantum, and one case of rheumatism; told the latter patient what to do, and let him cure himself, as he had only been drugged three months. I had one case of deafness and palpitation of the heart; gave him directions and let him cure himself, as he had only been drugged a short time.

One case was a boy 16 years old, with a sprained knee; three years previously he sprained the same knee, and paid a doctor \$80 to keep him a cripple for six months. I explained to him what to do, and he cured himself in two days; I charged him nothing for such a simple case.

I was called in to see a family down with fever and colds; told them what caused the colds and fever, and how to avoid it in the future. I cure cholera infantum by talking to the mother in this manner:

"We have had three hot days, and you have fed your little one just as often and just as much as you did when the weather was cool. It never takes as much food to keep up the vitality in hot weather as it does when cool, consequently you should not have fed so much or so often. The surplus food over and above what Nature required, was either decomposed or was undigested. That irritated the mucus membrane of the stomach and bowels, and your little one was cross and fretful from nervousness, and you fed it more. Now stop feeding the child for 24 hours; give it all the water it will drink, and flush the colon with tepid water, two or three times in the course of the 24 hours. Fill up all it can hold, and let it pass off immediately. If a very high fever, use cold water. It can do no harm. Hereafter, you must regulate the diet according to the weather, and avoid trouble."

Remember that *all* disease or sickness is avoidable. I have not the least particle of fear of sickness with my little chaps whatever. They are muscular, wiry, tough, healthy, and hearty; not a pound of surplus fat or diseased flesh about them; never have taken the least particle of medicine of any kind whatever; neither have I given a particle of medicine in all my 40 years' practical experience. I never have lost a case of diphtheria, cholera infantum, cramp, or any acute disease, where the patient had not previously been poisoned with drugs.

It has taken quite a long article to tell you what I was doing while starting my apiary. On my road home I would come past the lumber yard, and take a board or two, as the case might be, on my shoulder, and get up at break of day, feed the thoroughbred Langshans, brown leghorns, and Wyandotts, Pekin ducks, turkeys, and thoroughbred white fantails and the pony; then make a bee-hive before my neighbors were out of bed; get breakfast, and off on foot at 6:30. That gave me 30 minutes to go two miles and get to work. I am quite young yet, only past 76. I think you ought to see how a man with very little means can start an apiary. *What are you going to do about it?*

Bees are doing extra well yet.

Santa Ana, Calif., Sept. 11.



Honey as Food and Medicine.—A new and revised edition of this 32-page pamphlet is now issued. It has 5 blank pages on which to write or paste recipes taken from other sources. It is just what its name indicates, and should be liberally distributed among the people everywhere to create a demand for honey. It contains a number of recipes on the use of honey as food and as medicine, besides much other interesting and valuable information. Prices, postpaid, are: Single copy, 5 cts.; 25 copies 65 cts.; 50 for \$1.00; 100 for \$1.50. Better give them a trial. Send all orders to the Bee Journal office.

The New McCartney Combined Foundation-Fastener and Section-Press.

BY S. H. HERRICK.

It is said that necessity is the mother of invention. This may be true, but equally true it is that competition is the father of it. For, look where you will, and you will see that sharp competition is the order of the day, and is constantly spurring on the minds of our inventive geniuses to study out something still better and more useful than anything of its kind now before the public. Take our own industry, for example—what improvements have been made in hives! Take foundation—what a valuable invention it is. And then, smokers—what improvements have been brought out on them.

Take bee-escapes—but a few years ago no one had heard of such a thing. Then the "Dibbern escape" came out, but no sooner had it been fairly placed on the market than the "Porter" bobs up serenely, and (being a big improvement on the other) "takes all the persimmons." But while the "Por-



McCartney's Foundation-Fastener and Section-Press.

ter escape" is conducting the bees down and out "single file," Mr. Jardine conceives the idea that one exit is no more enough when bees want to find their mother than is one exit in a theater when the play is over; and out comes the new "Jardine escape," with its six exits.

Parker's foundation fastener was a pretty good little tool, but the "Daisy" came along and beat it all to pieces. Now comes the "New McCartney"—a machine, which fastens the sections together, and cuts the foundation and fastens it in the sections, all complete. I do not know that I can describe the process, but I will try.

You will see by the illustration that there are two treadles. Standing (or sitting) in front of the machine, take a section and bend it ready to be fastened together. Place it in the machine, and press the foot on the right side treadle; this fastens the section squarely and nice. Slide the foot over to the other treadle and press down, and the foundation is car-

ried forward, cut off, and fastened—all in one move of the foot. Starters can be put in as small as a quarter inch or full size, and can be instantly changed from large to small, or *vice versa*. This is done by a set screw near the rear end of the treadle.

While at work the jaw should be kept lubricated by applying occasionally with a pencil-brush a little honey thinned with water and kept handy in a shallow dish. With a little practice this machine can be made to do very rapid work in a first-class manner.

I understand that this machine will be on exhibition at the meeting at Lincoln, Nebr., but unfortunately Mr. McCartney is at present afflicted with rheumatism, and probably will not be able to be present at that meeting.

Winnebago County, Ill.

PERSONAL MENTION.

MR. A. D. STOCKING, of Escondido, Calif., has recently passed away. For many years he was a subscriber and correspondent of the Bee Journal, though not of late years.

MR. HENRY F. IMHOLT, of Washington county, Minn., lost his father by death on Sept. 7. He was 76 years of age, being sick only two days, with inflammation of the bowels.

MR. W. P. KEYES, for some years a partner of Mr. James Forncrook, of Watertown, Wis., and afterward connected with the Marshfield Mfg. Co., is now manager of the Wauzeka Section Co.

HON. GEO. E. HILTON, of Michigan, reports having taken 10,000 pounds of as fine comb honey as was ever produced in that State, from 150 colonies, spring count. Good for "George!"

MR. J. A. GREEN, we are very sorry to learn, lost his dear wife by death about two weeks ago, leaving a child about six weeks old. Mr. Green will have the sympathy of all the bee-keeping friends in his deep sorrow.

MR. WM. F. CLARKE had an excellent tribute to the memory of "The Late Allen Pringle," in the September Review. But it was greatly marred by the lugging in of some unnecessary as well as unkind personalities, referring to a few of Mr. Pringle's critics.

PROF. A. J. COOK has been selected to edit, in the monthly California Cultivator and Poultry-Keeper, a department called "Applied Science in Agriculture." It will be a valuable department, and a great addition to the editorial force of that double-named paper.

MR. HASTY, in the September Review, gives a lot of "cream" that he has succeeded in "skimming" from Gleanings and the Bee Journal. We think Mr. H. well deserves the name of "Inimitable Skimmer," even if he doesn't get quite all the "cream" that rises to "view."

MR. SIDNEY SLEEPER, of Holland, N. Y., reports in the September American Bee-Keeper that his 188 working colonies of bees gathered, on July 6, 3,000 pounds of honey in 10 hours; and on Aug. 15 they gathered 1,500 pounds of basswood and 7,000 pounds of buckwheat honey. How's that for high? Mr. S. thinks they beat the record of the world. We venture to remark that their keeper is not as sleepy as his name might indicate.

MESSRS. FREDERICO AND GIOVANNI METELLI, two prominent Italian brother bee-keepers, died recently within a few days of each other. Dr. Giovanni Metelli was born in 1843, and entered the military service as infantry surgeon in 1866, in which he remained until his death. His teachings were in favor of large hives, very strong colonies, and reserve colonies for reinforcement. According to the President of the Association, he "freed Italian apiculture from the last impediments which attached it to methods, which, however suited to the countries in which they originated, were little adapted to the fertility of the Italian soil, and the mildness of the climate,

and the different character of the Italian bee." So reports Mr. F. L. Thompson, in his interesting "Notes from Foreign Bee Journals," in the September Review.

MR. A. P. KARNS, of Titusville, Pa., finds himself the owner of a swarm of bees that had evidently absconded from some neighboring apiary, and had taken up their abode amid the branches and foliage of a maple tree at Mr. K.'s place. The local newspaper of Sept. 12 said that "the white combs containing honey and brood, suspended in the open air, and the festoon of busy workers, resembling a colony of *Apis dorsata*, the giant bees of India, has been a source of interest to residents of that vicinity during the past two weeks."

MR. FRANK McNAY, the king of Wisconsin honey-producers, dropped into the Bee Journal office on Sept. 26. He has taken about 50,000 pounds of extracted honey this year, and has so far handled about 75,000 pounds. His honey was both basswood and willow-herb, samples of which he left with us. Mr. McNay bought the bees and fixtures belonging to the late Christopher Grimm, who, with his brother Adam, were such extensive bee-keepers. It seems that the mantles of both of the Grimms have fallen upon Mr. McNay. But his shoulders are high and broad, so he wears his honors gracefully.

EDITOR MERRILL, of the American Bee-Keeper, when announcing the Lincoln convention, said:

"The subject of amalgamation with the Bee-Keepers' Union will be brought up, and will no doubt be voted down."

This has led us to wonder whether our brother editor is a real prophet, or has he some inside information? We thought that amalgamation was really favored by the majority. We know that some objections have been advanced against it, but we don't remember seeing any that weren't somewhat sleve-like.

MR. THOS. G. NEWMAN wrote us, on Sept. 18, that he had been lecturing in San Francisco, and was then about to go to Camp Harmony, at Escondido, Calif., where the Hon. J. M. Hambaugh is now keeping bees. Mr. Newman, we believe, is lecturing in the interest of the spiritual philosophy. He also wrote that Mrs. Newman had met with a fall, and very badly bruised her face, head and side. It would seem that she had enough to contend with in her erysipelas affliction, without enduring painful accidents. We hope she will speedily recover from the effects of her fall, and also get relief from the erysipelas.

LATER.—Since writing the foregoing, we notice that Mr. Newman was elected President of the California State Spiritualists' Association, at its first annual meeting in San Francisco, Sept. 4. His spiritualistic friends are very anxious that he remove permanently to San Francisco.

A New Binder for holding a year's numbers of the American Bee Journal, we propose to mail, postpaid, to every subscriber who sends us 20 cents. It is called "The Wood Binder," is patented, and is an entirely new and very simple arrangement. Full printed directions accompany each Binder. Every reader should get it, and preserve the copies of the Bee Journal as fast as they are received. They are invaluable for reference, and at the low price of the Binder you can afford to get it yearly.

The Alsike Clover Leaflet consists of 2 pages, with illustrations, showing the value of Alsike clover, and telling how to grow it. This Leaflet is just the thing to hand to every farmer in your neighborhood. Send to the Bee Journal office for a quantity of them, and see that they are distributed where they will do the most good. Prices, postpaid, are as follows: 50 for 25 cents; 100 for 40 cents; or 200 for 70 cents.

The Names and Addresses of all your bee-friends, who are not now taking the Bee Journal, are wanted at this office. Send them in, please, when sample copies will be mailed to them. Then you can secure their subscriptions, and earn some of the premiums we have offered. The next few months will be just the time to easily get new subscribers. Try it earnestly, at least.

Now is the Time to work for new subscribers. Why not take advantage of the offer made on page 651?

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GEORGE W. YORK, Editor.

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EDITORIAL COMMENTS.

At Lincoln, Nebr.—By the time the majority of our readers get this copy of the American Bee Journal, the 27th annual convention of the North American Bee-Keepers' Association at Lincoln, Nebr., will have drawn to a close. We will not be back in time to say very much, if anything, about the meeting, in next week's number, but in the issue for the week following we expect to begin the publication of a complete report of the proceedings. If all the plans are successfully carried out, something greatly advantageous to the bee-industry should result.

The Illinois State Fair was held last week. We had the pleasure of being present on Tuesday and Wednesday, accompanying the judge of the apiarian exhibit, Mr. F. Grabbe, of Libertyville, Ill. The bee and honey exhibits were large and very fine, being nearly twice the quantity as was shown last year, we were told. The principal exhibitors were Mr. C. Becker, Jas. A. Stone, and Finch & Robbins, all of Illinois; the Hutchinson brothers, of Michigan, and Geo. H. Kirkpatrick, of Indiana.

Next week we hope to speak more specifically of the exhibits and the premiums awarded.

Who Establishes the Price?—A honey-producer living some 40 miles from Chicago called on us lately and asked, "Who establishes the price of honey on the Chicago market?"

We replied, "Like Dr. Miller, we 'don't know.'"

Another bee-keeper and honey-dealer who was present, said, "Why, that's easy. The buyer who gets the honey from the commission-men, establishes the price, in nearly every instance in this market."

And he was correct to a very great extent. We verily believe that you can go into almost any of the newer honey-commission houses here and buy honey at your own figure. That is the very reason we have urged bee-keepers so strongly not to ship to strangers or new commission firms; for in so many cases they will take what they can get for the honey, deduct their commission and all other charges, and remit the balance to the shipper. And often that "balance" is quite a big surprise, on account of the small amount of cash which it represents.

For instance, just last week the honey-producer referred to first in this letter, called on a new honey-commission firm here, and bought only a single 12-pound case of finest comb honey for 11½ cents per pound. Yet that same firm was quoting to bee-keepers, privately, 15½ to 16½ cents!

The more we think about this subject, the nearer we come

to believing with Mr. Abbott, that the commission business is wrong in principle. It would be better all around if all such transactions were done upon a strictly cash basis. We don't want any commission business in ours when it comes to honey. We prefer to buy and sell for cash. Then there is no possible chance for trouble, if everything is bought and sold by sample. Must be equal to sample, or no sale.

The Dripless Shipping-Case, which has been lately advertised is a splendid thing for shipping comb honey. In Gleanings for Sept. 15 it was illustrated, and described as follows:

"The no-drip shipping-case is the same as any other case, only a trifle deeper. With each case is sent along a sheet of paper a little larger than the inside dimensions of the case. This is folded up into a paper tray, is then inserted, and strips laid in 4¼ inches from center to center, and nailed.

"Perhaps some may ask, 'But why these strips?' Why not set the sections right down on the paper tray itself? Did you ever notice that, when sections get to dripping, and stand upon a flat surface, how those sections will stick and hang to the surface? The little film of honey that enters between the surface and the bottom of the sections seems to act just like so much glue. To remedy this, the sections should be set up a little on cleats or strips of wood thick enough to raise them up anywhere from ¼ to 3/16 from the paper tray. Now, then, if any drip runs down it runs on to the paper tray, and does not come in contact with the sections, except that it may touch where the corners of said sections rest on the cleats.

"Ever since these shipping-cases have been sent out they have received the hearty approval of bee-keepers and commission-men. The idea is old, and has been in use for a number of years. It was originated, I believe, by that prince of American bee-keepers—Capt. J. E. Hetherington, of New York State—the man who has the reputation of owning and operation the largest number of colonies of any one bee-keeper in the world. One of these cases was sent to us by a friend of the Captain's two or three years ago. I knew at the time it was a good thing, but neglected to bring it before our readers."

Terrill Bros.—A Commission Firm on South Water Street—seem to be in a fair way to get their just deserts for alleged swindling transactions that it is reported they have been guilty of. In the daily Chicago Tribune for Saturday, Sept. 26, appeared an account of the result of some detective work, which began with these words in bold-face letters as a heading:

"On A. S. Terrill's trail. Evidence of peculiar commission transactions in hand. Detective Eddy says he is prepared to institute court proceedings which will result in conviction of fraudulent dealings. Names of firms which have received consignments and then disappeared. List of victims said to be large."

Then came the following paragraphs detailing the matters above referred to:

Detective E. B. Eddy says he has in hand sufficient evidence to convict A. S. Terrill, who has a record in South Water street commission circles, of fraudulent dealings.

The United States Express Company recently took up the case of Terrill, whose career has been referred to frequently in the Tribune, and put Detective Eddy at work to unravel the complicated situation of affairs which is said to have cost farmers of the West thousands of dollars in the last few years. Mr. Eddy says he will institute proceedings in court at once.

A. S. Terrill has been known as the head of half a dozen concerns which were held in bad odor by South Water street merchants. The different firms which he organized, it is said, sent agents throughout the country to solicit shipments of produce. As an inducement prices were offered a few cents above the market, and all kinds of favorable conditions were pictured. When the shipments were handled the consignee often failed to receive his money, it is said, and when he came

to Chicago to see about it, he would have all kinds of trouble in locating the responsible parties.

These different concerns were broken up time and again, but only to appear under new names and repeat the tricks of the former firm.

The master mind behind the scenes was said to have been Terrill. The headquarters were at No. 198 South Water street, with an office for Terrill himself in the Unity Building. At different times the business was conducted under the firm names of Terrill Bros.; Klinger, Helm & Co.; Lawrence Produce Co.; E. V. McConkey & Co.; W. B. Palne; and George T. Wheadon & Co.

The law offices of the city are full of complaints and unpaid bills which A. S. and W. V. Terrill, and McConkey, are to be asked to account for.

Mr. Eddy's office was visited by a large number of victims or their representatives yesterday, and he has a large number of claims which he is preparing to collect if possible.

There are hundreds of these complaints which have been accumulating for several years, and as many as possible of them will be brought forward. One of the first results of the hunt by Eddy for the head of the concerns was a personal encounter with Terrill, in which the latter, it is said, threatened to kill the detective.

We might say for the information of our readers, that when C. R. Horrie was first known to us, he was a member of the firm of Horrie & McConkey—the same E. V. McConkey referred to in the above. Shortly after, Horrie apparently started for himself under the name of C. R. Horrie & Co.; McConkey evidently did the same—with doubtless the Terrills backing both firms.

We have been told that Horrie and also McConkey were previously employees of Terrill Bros.

The George T. Wheadon & Co., mentioned in the Tribune's account (and who we also understand is an employee of Terrill Bros.), is the same concern that advertised in the September Bee-Keepers' Review, and that has been flooding bee-keepers with circular letters soliciting shipments of honey, quoting, as mentioned by the Tribune, "a few cents above the market," and picturing "all kinds of favorable conditions."

But we don't think that any of our readers will hereafter be caught by strange commission firms soliciting their honey, or by strangers traveling through the country offering to buy up their honey for such firms. Surely, we have given sufficient warning "along this line."

A Sample of Extracted Honey has been sent us by Mr. J. W. Stilson, of Otsego, Wis., which he says has been shipped there for sale. He desires our opinion of the honey. So far as we are able to judge by the taste, we should say it is a good quality of glucose flavored with basswood honey. Of course, we may be wrong, and would not say positively. Best way is not to buy any large quantity of honey from strangers. You will see on page 652 we are offering extracted honey, and we guarantee its purity. We know from whom we buy honey, and so we do not hesitate to stand back of it.

Push the Daily Use of Honey.—One of Dr. Miller's straws in Gleanings reads thus:

"If all the cake and all the cooked sweets were utterly banished from the table, and Nature's own sweet—honey—substituted therefor, I believe it would add greatly to the health, happiness, and longevity of the Nation."

It seems to us that bee-keepers have been too long bending all their energies toward a greater production of honey, instead of spending a part of their effort in extending its use. Ten times as much honey as is now consumed should be used on our tables as a daily food.

Prof. Cook gives an exceedingly interesting article, on page 641, on this very subject. It will repay a careful reading.

It will not do to cease telling the great sweet-loving public about the special merits of honey. Information concerning

its value as a food must be continually kept before the multitude. The trouble is, so many have come to consider honey mainly as a medicine, and use it only in medicinal quantities. This is all wrong. The general public should be informed that if honey were used more regularly as a food, there would be less need of thinking of any kind of medicines.

Last week we received the following from Dr. Gallup, of Santa Ana, Calif., which is right in line with what we have written above.

HONEY AS FOOD AND MEDICINE.

I think that I have never given my views on the above question to the readers of the American Bee Journal, so here goes:

Honey passes directly into the circulation from the stomach, without any digestion; therefore, it is a perfect food, and if one eats too much at any one time it acts as a gentle laxative, and never leaves any irritation behind, like drug irritants.

Of course, some people cannot eat honey, as it creates distress, cramps, etc., in the stomach, but such people have diseased stomachs, caused by taking poisonous drugs, and irritating the ganglionic nerves that supply the gastric juices. The pneumogastric and ganglionic nerves are always inflamed or congested in all cases of dyspepsia or diseased stomachs. Those nerves can always be regulated and put in a normal condition *in time* by proper manipulation with the hands, and never with poisonous drugs. Honey never injures a normal stomach.

Now for creating a home market for honey: Myself and three little children are on our fourth 60-pound can of honey since December, 1895, and it is now September, 1896. The children have free and unlimited access to the honey at all times, and they are ready for their bread and honey at every meal in the year, and healthier, more wiry, tough little chaps you cannot scare up. Right here is a home demand for honey. Hurrah for our side!

DR. E. GALLUP.

Now, what can be done to get people interested in a greater use of honey? So far, we believe there is nothing superior to Mr. Newman's little pamphlet, entitled, "Honey as Food and Medicine." One of these should be in every home, and its reading and study should be urged. Most people are not fools. They know a good thing especially when they taste it. Honey touches the spot. And bee-keepers should see to it that plenty of it is found in every pantry of the land.

In order that every honey-producer may give the pamphlet—"Honey as Food and Medicine"—a trial, in helping to create a greater home demand for honey, we will mail 25 copies for 65 cents; 50 copies for \$1.00; or 100 copies for \$1.50. You can write your name and address on them, or put it on with a rubber stamp.

Now is the time to begin to distribute literature on the use of honey—as cooler weather is just coming on.

Honey Recipes.—The Ladies' Home Journal is widely known as a superior house-keeper's periodical, and really ought to be in every home. In a recent issue it published these recipes, which name honey as the principal ingredient:

HONEY-COOKIES.—One quart of honey mixed with half a pound of white sugar, half a pound of butter, and the juice of two lemons. Stir this mixture very hard, then mix in gradually flour enough to make a stiff paste. Cut into round cakes and bake in buttered pans.

HONEY GINGER-SNAPS.—One pint of honey, three-quarters of a pound of butter, two tea-spoonful of ginger. Boil together for a few minutes, and, when nearly cold, sift in flour until it is stiff enough to roll. Cut in small cakes and bake quickly.

HONEY TEA-CAKE.—One cup of honey, half a cup of sour cream, two eggs, half a cup of butter, two cups of flour, scant half tea-spoonful of soda, one tea-spoonful of cream of tartar. Flavor to taste.

HONEY POPCORN-BALLS.—One pint of honey. Put it in a frying-pan and boil until very thick, then stir in freshly parched corn, and mould into balls when nearly cold.

Questions AND Answers

CONDUCTED BY

DR. C. C. MILLER, MARENGO, ILL.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

Leaving the Surplus Arrangement on in Winter.

I have some hives of bees with surplus boxes on, with a little honey in. They have zinc division-boards between them. If I put them in the cellar that way, would they winter as well as they would without the top hive? I have plenty of room in the cellar. The top hives are full of drawn comb, with about 10 or 12 pounds of honey in each hive. I would like to leave them on if it would be advisable. Would they winter better without the bottom-boards on?

Verona, Ont.

W. S. G.

ANSWER.—Your bees will probably winter just as well with the supers left on. Indeed, some think it a decided advantage. If all is left glued at the top, just as the bees had it, you will probably do well to leave off the bottom-boards. There is hardly any danger that you will have it too open below while in the cellar, but you can make very bad work by having it too close. In general, I should say that if the upper part of the hive is left in the cellar just as it was on the summer stand, that there should be a good deal more ventilation below, and no harm can come from leaving it entirely open.

Rearing Queens—Bees Exhibited at Fairs—Swarming.

1. Regarding rearing queens in nucleus hives, you advise rearing them in large colonies instead. How do you do it? I would like to rear a few queens for my own use, and want to keep my bees gathering honey to extract. I would like to increase by the nucleus plan. I don't object to feeding a few nuclei, if necessary.

2. I have a very nice queen and bees that I should like to exhibit at our Fair in an observatory hive, and return after an absence of 8 or 10 days. Would the bees accept them? How should I proceed?

3. Would you advise placing one 8-frame hive over another, giving the queen full sway, and three weeks before basswood bloom put on the excluder, and expect the bees to fill up with honey to extract? Would it cause swarming? The queens are good ones.

J. M. Q.

Syracuse, N. Y.

ANSWERS.—1. All that's necessary to rear one or more queens in a strong colony is to make the colony queenless, and this should be done at the time when they are getting abundant stores. Generally the time of natural swarming is perhaps the best. As you want to rear queens and increase by nuclei, keeping the old colony at work gathering honey to extract, perhaps you may accomplish it in this way:

Take from the colony two frames of brood with adhering bees, taking the queen with them, and put in an empty hive, adding two or three empty combs. A week later you will find a number of sealed queen-cells in the now queenless hive. If you care to have so many, you can make a nucleus for every sealed cell. But don't have less than two brood-combs with adhering bees in each nucleus. If you haven't so many combs as you want in this one hive, you must draw from other colonies. If you take from a colony having a laying queen, most of the bees you take will go back to their old home. So take away the queen from any colony you want to draw brood and bees from. Do this a day or so before taking the brood, and return the queen as soon as you have taken what brood you want. You can now return to the old hive the queen that you took away a week before, swapping the brood of the two. That will make quite a respectable colony with the queen, to produce for you some honey. If your work is done early enough in the season, you ought to have no great difficulty in building your nuclei up to good colonies for winter.

You will do well to get Doolittle's excellent work on queen-rearing.

2. No complicated procedure is necessary. If only eight days elapse, all that will be necessary will be to replace the frame with the bees and queen; but if you wait as long as 10 days, there is some danger that a young queen may have emerged. Better destroy all sealed queen-cells about the eighth or ninth day.

3. If I catch your meaning, you would put the excluder between the two stories. If the two stories were fairly occupied at the time of doing this, you would be pretty sure to have swarming. If the colony was not very strong, and if you put nearly all the brood in the upper story, leaving the queen below, it would work well. If the colony was strong, and the two stories well filled with brood—for a strong colony will keep 10 to 14 combs filled with brood—then your better plan will be to put the queen in a third story put under the other two, an excluder between the first and second story. In a good season you'll find the two upper stories pretty well filled, and possibly the two stories may not be enough.

What About Stingless Queens?

Will a queen live, and lay just as well, if she loses her sting?

A. P. G.

Cedarhome, Wash.

ANSWER.—I don't know. I never had any such queen that I know of, and for that matter I never heard of any. But I may give something of a guess in the case. If she lived after the loss of the sting, very likely she would lay all right. I have had a number of queens with only five legs, and they did good work. But I think the defect was from birth. If a queen should be born without a sting, I see no reason why she might not be a good layer, just as a moolly cow may be as good a milker as one with horns. Of course, much would depend upon how she lost her sting. I can hardly imagine its loss in any other way than by the act of the bee-keeper, and possibly you are contemplating unstinging a lot of queens so as to have them all laying in one hive. I think you might cut off the end of the sting without permanently injuring the queen. But if you should be successful in that respect I doubt whether more than one queen would still be left in the hive. I know it is the general belief that when two queens meet there is always a fight, and a fight to the death, rare exceptions occurring. It may not be the safest thing for me to express my private opinion, but I am skeptical as to a fight in any case between two laying queens. A virgin queen seems always ready to fight with a rival, but I never saw two laying queens fight, and I've had them caged together more than once. I suspect it's the workers that "get up sides" and kill one or other of the queens. In that case it would not help matters to have the queens stingless. Of course, I'm not sure that my view is correct.

Cubical Hive—Building Cell-Cups—Cypro-Italian Bees.

1. In what number of the American Bee Journal did the letters of two bee-keepers to you appear, describing their size of cubical hive? One bee-keeper was from Texas, and the other from Michigan, and the size of their hives were almost the same; but I can't find the number of the American Bee Journal which describes the size.

2. On July 25, I introduced an Italian queen to a colony of hybrids; a week later I opened the hive and found the queen laying, but there were about ten queen-cells built. I tore them off, but they continue to build cell-cups to this day, and the queen seems to be all right. What is the matter with them, and what shall I do?

3. Do you think a direct cross between a Cyprian queen and an Italian drone (or vice versa) would make a desirable strain for honey-gathering?

G. J. K.

ANSWERS.—1. I am not able at present to turn to the desired numbers, but perhaps some one else can.

2. The first possibility is a determination to swarm, but although bees seem to swarm later and more persistently than usual, it hardly seems they would keep it up from July into September. The second thought that occurs is that in some way the bees are not satisfied with the queen, and are determined to supersede her. Whether your persistently destroying their queen-cells will make them change their minds is doubtful, but it is probably the only thing that can be done.

3. Some have spoken well of such a cross, but the majority would probably prefer to leave out the Cyprian blood.

Question-Box.

In the multitude of counsellors there is safety.—Prov. 11-14.

A Swarming-Time Question.

Query 31.—In working with clipped queens, sometimes a swarm issues and clusters on a tree before returning to the hive. What is the longest time such a swarm will remain before returning? In other words, how long is it safe to let them hang without hiving before concluding that by some means there is with the swarm a queen with whole wings?—CANADA.

G. M. Doolittle—Half an hour.

Rev. M. Mahin—After an hour's delay I would try to get them back.

Chas. Dadant & Son—About half an hour ought to tell whether a queen is with them.

P. H. Elwood—Usually only a few minutes. Sometimes nearly or quite a half hour.

Mrs. L. Harrison—I never practiced clipping queens. I would not leave them more than an hour.

J. M. Hambaugh—I have never practiced clipping queens' wings, hence I am not authority on this subject.

Emerson T. Abbott—I do not know. Try it and see. No two swarms would act alike in this respect, any more than two people.

W. G. Larrabee—I have known them to hang on a tree over night, but I don't think it would be safe to leave them longer than $\frac{3}{4}$ of an hour.

Dr. J. P. H. Brown—The length of time the swarm would remain depends much upon the state of the weather—if in the sun, shade, rain, location, etc.

R. L. Taylor—I cannot say. I do not allow a swarm to remain more than 15 or 20 minutes, particularly if the cluster becomes quiet. It is seldom one remains that long.

Jas. A. Stone—I would return them as soon as possible and watch for the queen with "whole wings." Because the whole-winged queen means (if you neglect to do so) a lost swarm.

C. H. Dibbern—1. That varies a good deal for some reason or no reason. I have known them to remain over night when no queen was with them. 2. Not more than two hours.

Dr. C. C. Miller—Generally they will return in 10 or 15 minutes, not clustering at all; often they'll cluster and remain so 15 or 20 minutes, and sometimes half a day or longer.

Eugene Secor—There are times when bees so persist in swarming that they will hang all night without a queen. Not often, however. In most cases they will return inside of an hour.

Prof. A. J. Cook—They usually alight for a time and often remain clustered for a half hour or more. I mean to always be sure that there can be no such queen, and wait till they go back, or let them alone.

G. W. Demaree—It depends on how busy I am when the swarm is out, as to how long I would trust them to hang in the cluster. They generally return by the time I can get ready for them, and sometimes a little before I am ready to

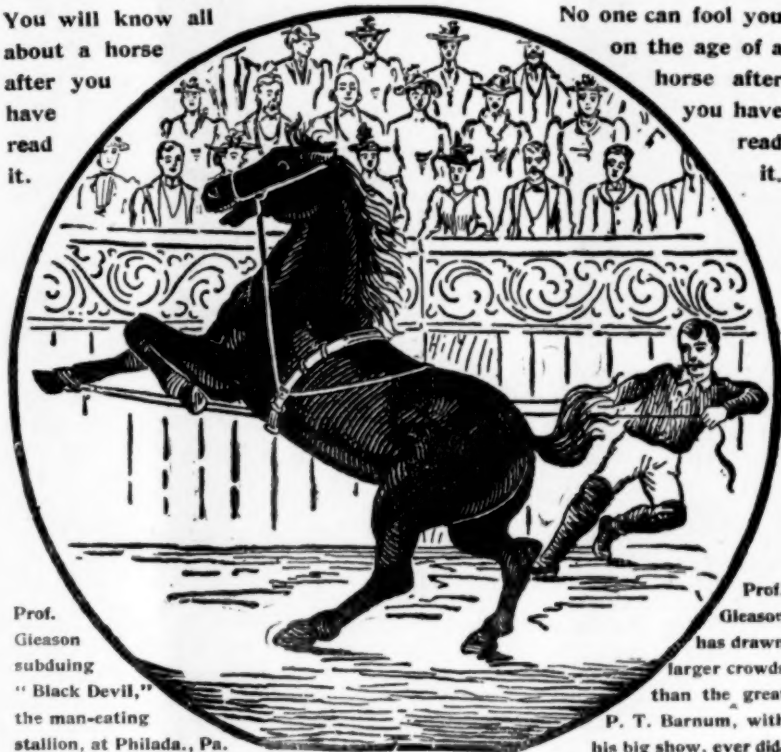
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accommodate them. But bees do not act uniformly, and when they "settle" without the queen, and sulk too long, say 15 or 20 minutes, I take them in for fear some sort of queen may have fallen in with the swarm.

J. A. Green—I think I have known them to remain clustered for two hours under such circumstances. As there is always a chance that they may have a queen with them, I would advise hiving them if they do not return inside of half an hour.

Wm. McEvoy—Yes, the swarms sometimes cluster on a tree when they have no queen with them, but such swarms often return in less than five minutes. If the bees remain very quiet for five minutes after they have clustered, you would better hive them, as there will be a queen with them 19 times out of 20.

J. E. Pond—I have had several swarms alight and then go back again, usually from 20 minutes to an hour. In one case where the swarm left without the queen to my certain knowledge, it was about one-half hour before they returned. This is the only case in which I knew the queen did not alight with the swarm.

Mrs. J. N. Heater—They rarely cluster at all unless a queen is with them. For several years I have practiced placing a tumbler over the queen on the alighting-board when a swarm issues, and never but once or twice have known them to attempt to cluster without her. When the queen goes with the swarm, so much depends upon circumstances that the length of time they will remain clustered varies indefinitely.

E. France—I have seen them stay two hours. If you want to hive them, pick up the queen, put her in a cage, put the cage with the swarm if the swarm can be reached; if you cannot reach the swarm, move the old colony away, then put the hive you want them in on the old stand, with the frames, and place the queen in the cage, and the swarm will soon come to her; then liberate the queen, and give them a frame of young brood.

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General Items.

Illinois State Members' Reports.

The four questions ordered sent out by the Secretary of the Illinois State Bee-Keepers' Association to its members, were mailed on Sept. 15. The questions and answers thereto are as follows:

1. How many colonies have you?
2. What are the prospects for a honey crop?
3. How much honey gathered to date?
4. Is the honey gathered No. 1 or not?

Peter Blunier, of Roanoke—1, 100 now; spring count, 54. 2, Honey crop is at an end for this season. 3, About 1,600 pounds, and about as much more on the hives yet. 4, Most of it is No. 1; some must be classed as No. 2.

W. B. Blume, of Norwood Park—1, 36, spring count; now 78. 2, Not very good. 3, About 2,000 pounds. 4, Half No. 1; the balance a mixed grade.

F. X. Arnold, of Deer Plain—1, 139. 2, Nix; it's all over. 3, Can't tell; a little more than the bees need for winter. 4, Heart's-ease and Spanish-needle.

C. Becker, of Pleasant Plain—1, 50. 2, Fair since Sept. 1. 3, About 500 pounds surplus. 4, No. 1 for fall honey, but dark.

M. M. Baldrige, of St. Charles—1, 20. 2, When? Too late in the season for prospects. 3, About half a crop—not more than \$15 worth per colony. 4, Very good, being a combination of sweet clover, white clover and Alsike.

W. G. Secor, of Greenfield—1, 35. 2, No clover honey; fall flow coming in now, and will be good if the weather is favorable. 3, 20 pounds of extracted and 28 of comb; balance is on the hives; will "round up" later. 4, No. 1 smartweed and Spanish-needle.

A. I. Emmons, of Greenfield—1, 40. 2, Fair for fall honey, if frost does not come too soon. 3, None taken off the hives yet. 4, From fall flowers.

Dr. C. C. Miller, of Marengo—1, About 270. 2, No prospect about it, but a pretty good reality. 3, Probably not far from 10,000 pounds of comb honey. 4, Not by a long sight. It's the nicest kind of honey.

W. C. Lyman, of Downer's Grove—1, 57. 2, Poor. 3, About 250 pounds. 4, Good.

G. W. Williams, of Mt. Sterling—1, 25. 2, Better than for six years. 3, About 800 pounds. 4, A little No. 1.

Chas. Dadant & Son, of Hamilton—1, About 320. 2, Bad. 3, A little clover; no fall crop. 4, Not very good.

J. Q. Smith, of Lincoln—1, I have reduced to 35 colonies. 2, Good for fall crop. 3, I put on 2,000 sections, and all are about sealed over; 14 colonies are building comb under the hives. 4, No. 1. It is smartweed, and very white and clear. I never had finer nor better filled sections.

A. Y. Baldwin, of DeKalb—1, 80. 2, Nothing brilliant, save a fall flow. 3, Between 1,000 and 1,200 pounds. 4, Fair for fall honey.

J. A. Green, of Ottawa—1, 110. 2, Bees are doing very well at present. If the weather continues favorable, we will



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Bee-Keeper's Guide—see page 654.

have a good crop. 3, About 3,000 pounds. 4, Some honey-dew; otherwise No. 1.

Geo. Thompson, of Geneva—1, 16. 2, Not very good. 3, Not over 300 pounds. 4, Honey dark, having no white clover.

S. H. Herrick, of Rockford—1, 20. 3, 225 pounds. Bees are now storing surplus from new crop of white clover and second blossoming of Alsike. 4, 175 pounds No. 1; 50 pounds not.

Elias Robinson, of Carmi—1, 60. 2, Not to exceed half a crop. 3, About 400 pounds. 4, 2nd in quality.

W. T. Talbott, of Farmingdale—1, 20. 2, None. 3, About 20 pounds. 4, No. 2 grade.

A. P. Raught, of Volo—1, 11. 3, 370 pounds. 4, 275 pounds white clover, and the rest buckwheat.

C. Schrier, of Peotone—1, 19. 2, Very good. 3, 900 pounds, and more coming. 4, No. 1.

S. N. Black, of Clayton—1, 17. 2, Will get no honey. 3, No surplus.

John A. Crutchfield, of Broadwell—1, 10. 2, Good. 3, 100 pounds. 4, No. 1.

R. Miller, of Compton—1, 100. 3, Only half a crop this year. 4, No. 1.

E. West, of Channahon—1, 45. 2, Poor. 3, About 800 pounds. Haven't taken it off yet. 4, Not No. 1; dark in color, and strong in flavor.

Frank Ernst, of Farmingdale—1, 10. 2, Very poor. 3, None.

E. F. Schaper, of Chesterton, Ind.—1, 60. 2, Poor. 3, 150 pounds extracted; probably will extract 500 pounds more. 4, Good light amber.

J. A. Roorda, of DeMotte, Ind.—1, 80 colonies, spring count, increased to 101. 2, Good. 3, About 8,000 pounds of comb honey, and 500 pounds of extracted. 4, Amber.

The above reports are all so far heard from. JAS. A. STONE, Sec.

A Report from Tennessee.

Bees have done very well so far this year. Our honey here in East Tennessee is gathered from the poplar and basswood, first crop, and from the golden-rod and white aster for fall crop. Bees are now at work on the golden-rod, and are now doing very well. We find comb honey the best to produce for the market, and it leaves the bees in better condition for winter than by extracting. I have run an apiary for 20 years, and I always find the American Bee Journal to be very good. My crop of honey this year was 2,000 pounds.

G. D. HAWK.

Childress, Tenn., Sept. 18.

Half a Crop of Honey.

Bees did very well in this part of the country up to the first of August, but since then they have done nothing. There is just about half a crop, so I would say that it is not advisable for Horrie & Co. to send Mr. Dingman here to buy honey this year, as the crop is so light that it would not pay him. He did well (?) here last year, but I think it will not pay him to come this year, and so I advise him to stay at home.

Our southern Minnesota bee-keepers' convention closed yesterday; we had a two-days' session, and a good time gen-

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William Iden, Etta Green, Ind
Mention the American Bee Journal. 39A3t

erally. Reports showed about half a crop this year, except in the northern part of the State. We had a good meeting, and an entertainment given us in the evening after the first day by the ladies of Winona city, was very much enjoyed.

E. B. HUFFMANN.
Winona, Minn., Sept. 26.

Changing the Stock, Etc.

One man here was telling my folks a new way to extract honey. He simply sets a pan under the hive (they are box-hives), and catches the honey that runs out on a hot day.

On page 599, Mrs. I. J. has a colony of bees that won't work. One of my neighbors had a swarm of common bees that acted the same way, so I put some of the comb into two frames, gave them a new queen, carried the old hive off about 12 rods, covered it up with a sheet, put the new hive in the place the old one was moved from, and the bees went right to work. This was on July 25, and to-day that hive is full of Albino bees, and all 10 frames are full of comb and honey. It is new blood that such bees need.

I had 5 colonies last spring, and now have 15. I use 8 and 10 frame hives, and have 300 pounds of comb honey. I could sell 1,000 pounds if I could produce it, but honey-dew would not sell at any price.

I do not know how I could get along without the Bee Journal and Gleanings.

C. G. ASCHA.

Hinsdale, Mass., Sept. 21.

A Correction—Swarming.

I wish to make a little correction of my letter on page 588, where it refers to bees that are swarmers. It makes me say, "In some instances I have had swarms from young swarms, which had not taken place before with my bees." It should read: "In several instances this season I have had swarms from young swarms' swarms, which had not taken place before with my bees." It is not an uncommon thing to have young swarms cast a swarm with my bees, for they do that almost every season, but when a young swarm's swarm cast a swarm, it is rather remarkable, as far as I know.

Here is an instance concerning one swarm, and I gave some attention to the matter: An old colony swarmed quite early; in fact, they sent out three swarms, and in buckwheat time cast another with a young queen. This old colony's first swarm cast two swarms, and their first swarm cast two more. That is an increase of eight swarms by natural swarming. The old colony herein referred to, after sending out the three swarms, filled two cases of 18 sections each, with white honey, and another set of the same in buckwheat time. Their first colony filled two, and their first swarm filled two sets also. The first swarm of the fourth generation has a set nearly filled. In fact, there are three sets of 18 sections each on the old swarm and its increase; but for all this my honey crop is light, compared to some of the bee-men. H. F. NEWTON.

Whitney's Crossing, N. Y., Sept. 21.

See the premium offer on page 651!

HONEY and BEESWAX

MARKET QUOTATIONS.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, and, so far as possible, quotations are made according to these rules:

FANCY.—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1 dark," etc.

Chicago, Ill., Sept. 30.—Fancy white, 13c.; No. 1, 12c.; fancy amber, 9@11c.; No. 1, 8@9c.; fancy dark, 8@10c.; No. 1, 8c. Extracted, white, 5@7c.; amber, 5@6c.; dark, 4@5c. Beeswax, 24@25c.

The sales of best grades of comb honey are now assuming more volume, and most sales are at 12, 12½, and 13c. All of the shipments that show care in preparation for transportation are arriving in good order. The market is also bare of dark comb honey, and there is a demand for it which anyone having a supply should take advantage of by shipping now.

Philadelphia, Pa., Sept. 30.—Extracted, white, 8-10c.; amber, 4-5c.; dark, 3-4c. Beeswax, 25c.

No new comb in this market yet. Old comb cleaned out.

Detroit, Mich., Sept. 30.—No. 1 white, 12-13½c.; fancy amber, 10-11c.; No. 1 amber, 9-10c.; fancy dark, 8-9c. Extracted, white, 5½-6c.; amber, 5-5½c.; dark, 4-5c. Beeswax, 24-25c.

Indianapolis, Ind., Oct. 3.—Fancy white, 14-15c.; No. 1 white, 12-13c. Extracted, white, 6-7c. Beeswax, 22-25c.

Demand is fair for grades quoted, but no demand for inferior grades.

St. Louis, Mo., Sept. 30.—Fancy white, 13@14c.; No. 1 white, 12@12½c.; fancy amber, 11@11½c.; No. 1 amber, 10@10½c.; fancy dark, 8@9c.; No. 1 dark, 7@7½c. Extracted, white, in cans, 5c.; in barrels, 4@4½c.; amber, 3@3½c.; dark, 2½@3c. Beeswax, 19@20c.

Very little honey coming in at present, and the weather is too warm to handle to advantage if it were here.

Albany, N. Y., Sept. 30.—Fancy white, 13-14c.; No. 1, 12-13c.; fancy amber, 10-11c.; No. 1 dark, 8-9c. Extracted, white, 6-7c.; dark, 5c.

With cooler weather there is an increasing demand for comb honey, and stock is moving off freely. There is but very little demand for extracted, except fancy white put up in glass jars.

New York, N. Y., Sept. 30.—Fancy white, 13c.; No. 1, 12c.; fancy amber, 11c.; No. 1, 10c.; dark, 9c. Beeswax declining; 23@24c. s now top price.

New crop comb honey is now arriving freely. The demand is fair only, and mostly for small lots of 10 to 25 crates. Some exceptionally fine lots will probably sell for a little more. No change in extracted, with plenty of supply.

San Francisco, Calif., Sept. 23.—White comb, 10c.; amber, 7½-9c. Extracted, white, 5-5½c.; light amber, 4½-4¾c.; amber colored and candied, 3¾-4c.; dark tulle, 2¾-3c.

Not much new crop honey on market, and not likely to be the current season. At the rates prevailing, however, the demand is somewhat limited and almost wholly local. Stocks of 1895 crop in the hands of the wholesale and jobbing trade are almost exhausted. Most of the extracted of this year's yield has been forwarded East from the interior.

Beeswax, fair to choice, 23-26c. No change to note in values. For choice to select the market is moderately firm at the prevailing rates.

Milwaukee, Wis., Sept. 30.—Fancy white, 14-15c.; No. 1, 12-13c.; No. 1 amber, 8-10c. Extracted, white, 6-7c.; amber, 5-6c.; dark, 4-5c. Beeswax, 22-24c.

New crop of honey begins to come forward. The demand is very poor and quotations almost nominal. Weather is very warm and the consumption of honey is very small. Plenty of fruit, and hence the appetite is satisfied with same in preference. Later on we expect an improved demand for honey of all kinds.

Minneapolis, Minn., Sept. 30.—Fancy white, 12½c.; No. 1 white, 10@11c.; fancy amber, 9@10c.; No. 1 amber, 8@9c.; fancy dark, 7@8c.; No. 1 dark, 6-8c. Extracted, white, 5½@6½c.; amber, 5@5½c.; dark, 4@5c. Beeswax, 23@26c.

The demand for both comb and extracted is very quiet, and for the latter, nominal. The hot weather of the past week or so has checked demand for comb honey.

Cleveland, Ohio, Sept. 30.—Fancy white, 14½@15c.; No. 1 white, 12½@13c. Extracted, white, 6@7c.; amber, 4½@5½c. Beeswax, 22@25c.

There is not very much honey in our market. Selling rather slow. Demand beginning to be a little better. Think trade will be fair in this line this fall.

Kansas City, Mo., Sept. 30.—Fancy white comb, 15c.; No. 1 white, 13@14c.; fancy amber, 12-13c.; No. 1 amber, 11-12c.; fancy dark, 10-11c.; No. 1, 8-10c. Extracted, white, 6-6½c.; amber, 5-5½c.; dark, 4-4½c. Beeswax, 22-25c.

Boston, Mass., Sept. 30.—Fancy white, 14-15c.; No. 1, 12-13c.; fancy amber, 9-10c. Extracted, white, 6-7c.; amber, 5-6c. Beeswax, 25c.

Good supply of new honey, but demand is light this very hot weather.

Buffalo, N. Y., Sept. 30.—Fancy comb, 1-pound, mostly 12c., occasionally 13-14c.; No. 2, 8-10c.; No. 3, 4-7c. Extracted, 4-5c. Demand grows better as fruit decreases.

List of Honey and Beeswax Dealers.

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 163 South Water Street.

New York, N. Y.

HILDRETH BROS. & SEGELKEN,
120 & 122 West Broadway.
CHAS. ISRAEL & BROS., 486 Canal St.

Kansas City, Mo.

O. C. CLEMOMS & Co., 423 Walnut St.

Buffalo, N. Y.

BATTERSON & Co., 167 & 169 Scott St.

Hamilton, Ills.

CHAS. DADANT & SON.

Philadelphia, Pa.

WM. A. SELSER, 10 Vine St.

Cleveland, Ohio.

WILLIAMS BROS., 80 & 82 Broadway.

St. Louis, Mo.

WESTCOTT COM. CO., 213 Market St.

Minneapolis, Minn.

S. H. HALL & Co.

Milwaukee, Wis.

A. V. BISHOP & Co.

Boston, Mass.

E. E. BLAKE & Co., 57 Chatham Street.

Detroit, Mich.

M. H. HUNT, Bell Branch, Wayne Co., Mich.

Indianapolis, Ind.

WALTER S. POWDER, 162 Massachusetts Ave.

Albany, N. Y.

CHAS. McCULLOCH & Co., 380 Broadway.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Convention Notices.

TENNESSEE.—The Southern East Tennessee Bee-Keepers' Association will hold its annual meeting at Cookson's Creek, on Oct. 10, 1896. Session will open at 9 o'clock a.m. All are invited to attend, and especially those engaged in bee-culture. W. J. COPELAND, Sec. Fetzerton, Tenn.

CONNECTICUT.—The fall meeting of the Connecticut Bee-Keepers' Association will be held at the Capitol at Hartford, on Oct. 21, 1896, at 10:30 a.m. All interested in bees and the production of honey are invited to attend this meeting.

Waterbury, Conn. MRS. W. E. RILEY, Sec.

North American Bee-Keepers' Association

OFFICERS FOR 1896.

PRESIDENT—A. I. Root, Medina, Ohio.
VICE PRES.—Wm. McEvoy, Woodburn, Ont.
SEC.—Dr. A. B. Mason, Sta. B, Toledo, Ohio.
TREAS.—W. Z. Hutchinson, Flint, Mich.
Convention at Lincoln, Nebr., Oct. 7 & 8.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor, Lapeer, Mich.
GEN'L MGR.—T. G. Newman, San Diego, Cal.

Warner's Safe Cure.—For the past half dozen years Warner's Safe Cure has not been advertised in the agricultural press, the city papers having been exclusively used. The Company manufacturing the old and reliable kidney and liver medicine have, however, come to the conclusion that the agricultural paper is read more thoroughly than the city daily, and better results can be obtained by returning to it. In this they are correct, and we hope our readers will prove it to them by reading the new advertisement of the Warner's Safe Cure Co. which will be found in another column of this paper, and acting on the advice there given.

Bee-Keepers' Photograph.—We have now on hand a limited number of excellent photographs of prominent bee-keepers—a number of pictures on one card. The likeness of 49 of them are shown on one of the photographs, and 121 on the other. We will send them, postpaid, for 50 cents each, mailing from the 121 kind first; then after they are all gone, we will send the 49 kind. So those who order first will get the most "faces" for their money. Send orders to the Bee Journal office.

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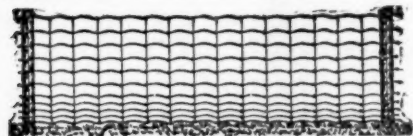
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